



Docket No. 12969

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Bitler

Group Art Unit: 1714

Serial No.: 09/398,377

Examiner: Szekely, P.

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Title: Polymeric Thickeners for Oil-Containing Compositions

Version of Claims 2,3,5,7-14 and 17-39 with Markings to show the changes made to those claims in order to formulate new claims 40-73. This version does not include the newly added claims 65-67.

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Claim 1 was previously canceled

[2.] 46. A composition according to Claim 45 [10] which is substantially free of water.

[3.] 68. A thickened oil composition which is a water-in-oil emulsion and which comprises

- (1) an oil, and
 - (2) dispersed in the oil, a polymer which
 - (a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$;
 - (b) is soluble in the oil at temperatures above T_p ,
 - (c) has been dispersed in the oil by a process which comprises
 - (i) dissolving the polymer in the oil at a temperature above T_p , and
 - (ii) cooling the solution to crystallize the polymer in the oil,
- and

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(d) is a side chain crystalline (SCC) polymer which is substantially free of functional groups; the composition being at a temperature below T_p .

Claim 4 was previously canceled

[5.] 52. A thickened oil composition comprising

- (1) an oil, and
- (2) dispersed in the oil, at least 3% by weight of a polymer which
 - (a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$;
 - (b) is soluble in the oil at temperatures above T_p ,
 - (c) has been dispersed in the oil by a process which comprises
 - (i) dissolving the polymer in the oil at a temperature above T_p , and
 - (ii) cooling the solution to crystallize the polymer in the oil, and
 - (d) is a side chain crystalline (SCC) polymer which is substantially free of functional groups, and which consists of
 - (i) 50 to 100% by weight of units derived from at least one n-alkyl acrylate or methacrylate in which the n-alkyl group contains 12 to 50 carbon atoms, and
 - (ii) 0 to [less than] 50% by weight of units derived from at least one alkyl acrylate or methacrylate in which the alkyl group is not an n-alkyl group containing 12 to 50 carbon atoms;

the composition being at a temperature below T_p .

Claim 6 was previously canceled

[7.] 40. A thickened oil cosmetic composition which comprises

- (1) an oil, and
- (2) dispersed in the oil, a polymer which
 - (a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$;
 - (b) is soluble in the oil at temperatures above T_p ,
 - (c) has been dispersed in the oil by a process which comprises
 - (i) dissolving the polymer in the oil at a temperature above T_p , and
 - (ii) cooling the solution to crystallize the polymer in the oil,
 - (d) is a side chain crystalline (SCC) homopolymer which is substantially free of functional groups, and
 - (e) is present in amount such that it thickens the oil;

the composition being at a temperature

- (i) which is below T_p , and
- (ii) at which the composition, in the absence of the polymer, is liquid.

[8.] 41. A composition according to Claim 40 [7], wherein the SCC polymer consists essentially of units derived from an n-alkyl acrylate or methacrylate in which the n-alkyl group contains 12 to 50 carbon atoms.

[9.] 42. A composition according to Claim 41 [8] wherein the SCC polymer is present in amount at least 3% by weight [and the n-alkyl group contains 16 to 50 carbon atoms].

[10.] 45. A thickened oil cosmetic composition comprising

- (1) an oil, and
- (2) dispersed in the oil, a polymer which

- (a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$;
- (b) is soluble in the oil at temperatures above T_p ,
- (c) has been dispersed in the oil by a process which comprises
 - (i) dissolving the polymer in the oil at a temperature above T_p , and
 - (ii) cooling the solution to crystallize the polymer in the oil,
- (d) is a side chain crystalline (SCC) polymer which is substantially free of functional groups, and which consists of
 - (i) 50 to 100% by weight of units derived from at least one n-alkyl acrylate or methacrylate in which the n-alkyl group contains 12 to 50 carbon atoms, and
 - (ii) 0 to [less than] 50% by weight of units derived from at least one alkyl acrylate or methacrylate in which the alkyl group is not an n-alkyl group containing 12 to 50 carbon atoms, and
- (e) is present in amount such that it thickens the oil;

the composition being at a temperature

- (i) which is below T_p , and
- (ii) at which the composition, in the absence of the polymer, is liquid.

[11.] 54. A **[thickened oil]** composition according to Claim 52 wherein the

[comprising

- (1) an oil, and
- (3) dispersed in the oil, a polymer which
 - (a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$;
 - (b) is soluble in the oil at temperatures above T_p ,

- (c) has been dispersed in the oil by a process which comprises
 - (i) dissolving the polymer in the oil at a temperature above T_p , and
 - (ii) cooling the solution to crystallize the polymer in the oil,
- (d) is a side chain crystalline (SCC) polymer which is substantially free of functional groups, and which consists of
 - (i) 50 to 100% by weight of units derived from at least one n-alkyl acrylate or methacrylate in which the n-alkyl group containing 12 to 50 carbon atoms are units derived from at least one n-alkyl acrylate in which the n-alkyl group contains 16 to 50 carbon atoms, and
 - (ii) less than 50% by weight of units derived from at least one alkyl acrylate or methacrylate in which the alkyl group is not an n-alkyl group containing 12 to 50 carbon atoms, and
- (e) is present in amount at least 3 % by weight

the composition being at a temperature below T_p].

[12.] 47. A composition according to Claim 45 [10] which is at a temperature of 20 to 25 °C and wherein T_p is above 40 °C.

[13.] 48. A composition according to Claim 45 [10] which is at a temperature of 20 to 25 °C and wherein T_p is 40-50 °C.

[14.] 49. A composition according to Claim 45 [10] wherein $T_p - T_o$ is less than 10°C.

Claims 15 and 16 were previously canceled.

[17.] 69. A thickened oil composition which is a water-in-oil emulsion and which comprises

- (1) an oil, and
- (2) dispersed in the oil, a side chain crystalline (SCC) polymer which
 - (a) has a crystalline melting point, T_p , of 20 to 80 °C, and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than 10 °C;
 - (b) is soluble in the oil at temperatures above T_p ,
 - (c) has been dispersed in the oil by a process which comprises
 - (i) dissolving the polymer in the oil at a temperature above T_p , and
 - (ii) cooling the solution to crystallize the polymer in the oil,
 - (d) contains at least 80% by weight of repeating units containing a side chain comprising a linear polymethylene radical or a linear substantially perfluorinated polymethylene radical containing 6 to 50 carbon atoms, and
 - (e) is substantially free of functional groups;

the composition being at a temperature below T_p .

[18.] 71. A composition according to Claim 69 [17,] wherein T_p is 40-50 °C.

[19.] 71. A composition according to Claim 69 [17,] wherein the SCC polymer consists essentially of units derived from at least one n-alkyl acrylate or methacrylate in which the n-alkyl group contains 12 to 50 carbon atoms.

[20.] 57. A thickened oil composition which comprises

- (1) an oil, and
- (2) dispersed in the oil, at least 3% by weight of a side chain crystalline (SCC) homopolymer which

- (a) has a crystalline melting point, T_p , of 20 to 80 °C, and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than 10 °C;
- (b) is soluble in the oil at temperatures above T_p ,
- (c) has been dispersed in the oil by a process which comprises
 - (i) dissolving the polymer in the oil at a temperature above T_p , and
 - (ii) cooling the solution to crystallize the polymer in the oil,
- (d) contains at least 80% by weight of repeating units containing a side chain comprising a linear polymethylene radical containing 10 to 50 carbon atoms or a linear substantially perfluorinated polymethylene radical containing 6 to 50 carbon atoms, and
- (e) is substantially free of functional groups;

the composition being at a temperature below T_p .

[21.] 59. A thickened oil composition comprising

- (1) an oil selected from the group consisting of [mineral oils; vaseline oils;] hydrogenated polyisobutylene; triglycerides; purcellin oil; isopropyl myristate; butyl myristate; cetyl myristate; isopropyl palmitate; butyl palmitate; ethyl-2-hexyl palmitate; isopropyl stearate; butyl stearate; octyl hexadecyl stearate; isocetyl stearate; decyl oleate; hexyl laurate; propylene glycol dicaprylate, diisopropyl adipate; animal oils; silicone oils; oleyl alcohol; linoleyl alcohol; linolenyl alcohol; isostearyl alcohol; octyl dodecanol; esters derived from lanolic acid; and acetyl glycerides; and
- (2) dispersed in the oil, a polymer which
 - (a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$;
 - (b) is soluble in the oil at temperatures above T_p ,

- (c) has been dispersed in the oil by a process which comprises
 - (i) dissolving the polymer in the oil at a temperature above T_p , and
 - (ii) cooling the solution to crystallize the polymer in the oil, and
- (d) is a side chain crystalline (SCC) polymer which is substantially free of functional groups, and which consists of
 - (i) 50 to 100% by weight of units derived from at least one n-alkyl acrylate or methacrylate in which the n-alkyl group contains 12 to 50 carbon atoms, and
 - (ii) 0 to [less than] 50% by weight of units derived from at least one alkyl acrylate or methacrylate in which the alkyl group is not an n-alkyl group containing 12 to 50 carbon atoms;

the composition being at a temperature below T_p .

[22.] 60. A composition according to Claim 59 [21,] wherein T_p is above 40 °C.

[23.] 61. A composition according to Claim 59 [21,] wherein T_p is 40-50 °C.

[24.] 62. A composition according to Claim 59 [21,] wherein $T_p - T_o$ is less than 10°C.

[25.] 63. A composition according to Claim 59 [21,] wherein the SCC polymer comprises a homopolymer of the n-alkyl acrylate in which the n-alkyl group contains 18 carbon atoms.

[26.] 64. A composition according to Claim 59 [21,] wherein the SCC polymer a homopolymer of the n-alkyl acrylate in which the n-alkyl group contains 22 carbon atoms.

[27.] 53. A composition according to Claim 52 [5,] wherein the SCC polymer contains at least 80% by weight of repeating units containing a side chain comprising a linear polymethylene radical containing 10 to 50 carbon atoms.

[28.] 55. A composition according to Claim 52 [5,] which contains 3 to 10% by weight of the SCC polymer.

[29.] 56. A composition according to Claim 52 [5,] which is at a temperature of 20 to 25 °C and wherein T_g is more than 40 °C [contains 3 to 7% by weight of the SCC polymer].

[30.] 43. A composition according to Claim 40 [7] which contains 3 to 10% by weight of the SCC polymer.

[31.] 44. A composition according to Claim 40 which is at a temperature of 20 to 25 °C and wherein T_g is more than 40 °C. [7 which contains 3 to 7% by weight of the SCC polymer.]

[32.] 50. A composition according to Claim 45 [10] which contains at least 3 [to 10]% by weight of the SCC polymer.

[33.] 51. A composition according to Claim 45 [10] which contains 3 to 7% by weight of the SCC polymer.

[34. A composition according to Claim 11 which contains 3 to 10% by weight of the SCC polymer.

35. (New) A composition according to Claim 11 which contains 3 to 7% by weight of the SCC polymer.]

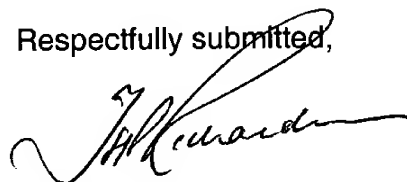
[36.] 72. A composition according to Claim 69 [17] which contains 3 to 10% by weight of the SCC polymer.

[37.] 73. A composition according to Claim 69 [17] which contains 3 to 7% by weight of the SCC polymer.

[38.] 58. A composition according to Claim 57 [20] which contains 3 to 10% by weight of the SCC polymer.

[39. (New) A composition according to Claim 20 which contains 3 to 7% by weight of the SCC polymer.]

Respectfully submitted,



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